

C
P383H
1871

AGRICULTURAL COLLEGE

OF

PENNSYLVANIA.

THE LIBRARY

OF THE
UNIVERSITY OF ILLINOIS

CIRCULAR FOR THE YEAR 1871.

PUBLISHED BY AUTHORITY OF THE BOARD OF TRUSTEES.

HARRISBURG:

B. SINGERLY, PRINTER.

1870.



BOARD OF TRUSTEES.

EX-OFFICIO MEMBERS.

HIS EXCELLENCY JOHN W. GEARY,
GOVERNOR OF PENNSYLVANIA, HARRISBURG, PA.
HON. F. JORDAN, SECRETARY OF THE COMMONWEALTH, HARRISBURG, PA.
THO. H. BURROWES,
PRESIDENT COLLEGE FACULTY, AGRICULTURAL COLLEGE, PA.

ELECTED MEMBERS.

HON. A. O. HIESTER, HARRISBURG P. O., DAUPHIN CO.
Term expires September, 1871.
JAMES KELLY, Esq., WILKINS P. O., ALLEGHENY CO.
Term expires September, 1871.
B. MORRIS ELLIS, Esq., HUGHESVILLE P. O., LYCOMING CO.
Term expires September, 1871.
HON. FREDERICK WATTS, CARLISLE P. O., CUMBERLAND CO.
Term expires September, 1872.
GEN. HARRY WHITE, INDIANA P. O., INDIANA CO.
Term expires September, 1872.
JOSEPH C. TURNER, Esq., CHADD'S FORD P. O., CHESTER CO.
Term expires September, 1872.
DANIEL KANE, Esq., UNIONTOWN P. O., FAYETTE CO.
Term expires September, 1873.
H. N. M'ALLISTER, Esq., BELLEFONTE P. O., CENTRE CO.
Term expires September, 1873.
A. BOYD HAMILTON, Esq., HARRISBURG P. O., DAUPHIN CO.
Term expires September, 1873.

OFFICERS FOR THE CURRENT YEAR.

<i>President.</i>	<i>Treasurer.</i>
HON. FREDERICK WATTS.	MOSES THOMPSON, Esq.
<i>Secretary of the Board.</i>	
THO. H. BURROWES.	

FACULTY AND COLLEGE OFFICERS.

PRESIDENT—THO. H. BURROWES, LL. D.,

PROFESSOR OF CIVIL GOVERNMENT, PRACTICAL AGRICULTURE AND FRENCH.

VICE PRESIDENT—JAMES Y. M'KEE, A. M.,

PROFESSOR OF ENGLISH LITERATURE, AND THE LATIN AND GREEK LANGUAGES.

A. A. BRENEMAN, S. B.,

PROFESSOR OF GENERAL AND AGRICULTURAL CHEMISTRY.

ISRAEL HEILMAN, B. S.,

PROFESSOR OF MATHEMATICS AND CIVIL ENGINEERING.

J. Y. DALE, M. D.,

PROFESSOR OF HUMAN ANATOMY, PHYSIOLOGY AND HYGIENE, AND ATTENDING
PHYSICIAN.

W. A. BUCKHOUT, B. S.,

PROFESSOR OF BOTANY, GEOLOGY, &C.

E. T. BURGAN, M. E.,

PROFESSOR OF ENGLISH BRANCHES.

JOHN HAMILTON,

MILITARY INSTRUCTOR.

ISAAC KAUP,

MASTER MECHANIC.

MASTER GARDENER.

MISS S. S. HUNTER,

STEWARD.

MRS. ANN CONDILL,

MATRON AND NURSE.

CHAPLAINS.

REV. J. A. HACKENBERG,

REV. R. C. BRYSON,

REV. HENRY J. W. ALLEN,

REV. J. MULLIN.

LIST OF STUDENTS IN 1870.

FRESHMEN.

Bayley, Richard W.,	Hollidaysburg, Blair co., Pa.
Campbell, Curtis G.,	Johnstown, Cambria co., Pa.
Conklin, Ezra K.,	Philadelphia, Pa.
Conyngham, Edward B.,	Paradise, Lancaster co., Pa.
Devore, John H.,	Warrior's Mark, Huntingdon co., Pa.
Downing, Orrine P.,	Brooklyn, New York.
Easley, Samuel A.,	Circleville, Williamson co., Texas.
Eldred, William W. P.,	Lock Haven, Clinton co., Pa.
Ellis, J. Alden,	Hughesville, Lycoming co., Pa.
Fay, Joseph B.,	Williamsburg, Blair co., Pa.
Forman, Ezekiel,	Easton, Talbot co., Md.
Foster, William L.,	Boalsburg, Centre co., Pa.
Fulmer, G. W.,	Williamsport, Lycoming co., Pa.
Gibboney, Robert H.,	M'Veytown, Mifflin co., Pa.
Glasgow, William,	Agricultural College, Centre co., Pa.
Harris, John D.,	Hublersburg, Centre co., Pa.
Hess, Edwin W.,	Linden Hall, Centre co., Pa.
Hopkins, Newton L.,	Buck, Lancaster co., Pa.,
Houston, Henry E.,	Harrisburg, Dauphin co., Pa.
Isett, John B.,	Spruce Creek, Huntingdon co., Pa.
Leman, Henry E.,	Lancaster, Lancaster co., Pa.
Lytle, Samuel F.,	Agricultural College, Centre co., Pa.
McAlpin, William B.,	Lock Haven, Clinton co., Pa.
McDowell, James E.,	Salona, Clinton co., Pa.
M'Farlane, J. Kyle,	Agricultural College, Centre co., Pa.
Mason, John L.,	Germantown, Philadelphia, Pa.
Mifflin, James D.,	Columbia, Lancaster co., Pa.
Ross, George P.,	Williamsburg, Blair co., Pa.
Russell, William C.,	Lewistown, Mifflin co., Pa.
Russell, George L.,	Lewistown, Mifflin co., Pa.
Schmucker, George E.,	Williamsburg, Blair co., Pa.
Schmucker, James E.,	Williamsburg, Blair co., Pa.
Shaffer, William W.,	Pittsburg, Pa.
Schellenberg, Charles E.,	Lewistown, Mifflin co., Pa.
Spofford, James L.,	North-East, Erie co., Pa.

Stephens, Abednego L.,
 Thompson, John C.,
 Thompson, James T.,
 Willard, Willis J.,
 Willard, Charles F.,

Centre Line, Centre co., Pa.
 Spruce Creek, Huntingdon co., Pa.
 Lemont, Centre co., Pa.
 Jonesboro', Union co., Ill.
 Jonesboro', Union co., Ill.

JUNIORS.

Allison, William M.,
 Bennet, Daniel S.,
 Bruner, William S.,
 Corbin, Joseph F.,
 Douglass, Samuel W.,
 Evans, George A.,
 Elder, Matthew A.,
 Isett, William A.,
 M'Kee, Charles H.,
 Starr, James F.,
 Steigerwalt, William F.,
 Wright, Frederick P.,

Potter's Mills, Centre co., Pa.
 Montoursville, Lycoming co., Pa.
 Columbia, Lancaster co., Pa.
 Dublin Mills, Fulton co., Pa.
 Columbia, Lancaster co., Pa.
 Brooklyn, New York.
 Half Moon, Centre co., Pa.
 Spruce Creek, Huntingdon co., Pa.
 Oakdale, Allegheny co., Pa.
 Montoursville, Lycoming co., Pa.
 New Ringgold, Schuylkill co., Pa.
 Chambersburg, Franklin co., Pa.

AGRICULTURAL.

Burrowes, Francis S.,
 M'Creary, Pitt L.,
 Woodburn, Skiles M.,

Agricultural College, Centre co., Pa.
 Avonia, Erie co., Pa.
 Walnut Bottom, Cumberland co., Pa.

SCIENTIFIC.

Cram, Arthur B.,
 Forman, Frederick W.,
 Galbraith, William W.,
 Hamilton, John,

Detroit, Michigan.*
 Easton, Talbot co., Md.*
 White House, Cumberland co., Pa.*
 Mexico, Juniata co., Pa.

*Graduated July 1870, under the former course of study.

COURSE OF INSTRUCTION.

FRESHMAN CLASS.

First Term.

Orthography.	Elements of Algebra.
Reading and Elocution.	Latin, Grammar.
Penmanship.	History U. S.
English Grammar.	Practice in Agriculture, Horticulture,
Political Geography.	&c.
Arithmetic, Mental and Written.	

Second Term.

Grammar and Composition.	Elements of Natural Philosophy.
Physical Geography.	Elements of Chemistry.
Higher Arithmetic.	Latin, Grammar and Reader.
Algebra, (continued.)	Practice in Agriculture, Horticulture,
Book-keeping.	&c.

JUNIOR CLASS.

First Term.

General Grammar; Essays.	Botany, Anatomical and Physiologi-
General History.	cal.
Government, General Principles of.	Latin, Cæsar and Composition.
Algebra.	Greek, Grammar.
Geometry.	Practice in Agriculture, Horticulture,
Inorganic Chemistry.	&c.

Second Term.

General Grammar; Essays; Declamations.	Analytical Botany, with Field Practice.
General History.	Human Anatomy and Physiology,
Principles of Government.	Elementary.
Algebra, (completed.)	Latin, Virgil's <i>Æneid</i> and Composition.
Geometry, (completed.)	
Inorganic Chemistry, (concluded.)	Greek, Grammar, <i>Anabasis</i> and Composition.
Organic Chemistry, Elementary, by Lectures.	Practice in Agriculture, Horticulture,
Laboratory Practice.	&c.

AGRICULTURAL CLASS.

First Term.

English Literature.	Zoology.
General History.	Geology, Elementary.
Government, Constitution U. S.	Human Anatomy and Physiology,
Trigonometry, Plane, Analytical and Spherical.	(advanced.)
Land Surveying, with Compass and Transit.	Latin, Cicero's Orations and Composition.
Stoichiometry.	Greek, <i>Iliad</i> and Composition.
Analytical Botany.	Lectures on Practical Agriculture, with Practice.

Second Term.

English Literature.	Zoology, Animals useful and injurious to the Farmer.
General History.	Geology, (advanced.)
Government, Constitution of Pa.	Hygiene, Lectures on.
Land Surveying, (completed.)	Latin, Horace.
Analytical Geometry.	Greek, Plato's Apology.
Civil Engineering.	German or French.
Descriptive Geometry.	Lectures on Practical Agriculture, with Practice.
Qualitative Analysis, with Lectures upon Laboratory work.	
Analytical Botany.	

SCIENTIFIC CLASS.

First Term.

Logic.	Zoology.
Civil Engineering.	Geology.
Differential Calculus.	Anatomy and Physiology.
Shades and Shadows.	Latin, Horace, (continued.)
Organic Chemistry, by Lectures.	Greek, Thucydides.
Qualitative Analysis, (concluded.)	Lectures and Practice in Agriculture.
Botany.	

Second Term.

Rhetoric: Original Speeches.	Zoology.
Analytical Mechanics.	Geology.
Integral Calculus.	Anatomy and Physiology.
Practical Draughting.	Latin, Tacitus.
Technical Chemistry, by Lectures.	Greek, Demosthenes de Corona.
Quantitative Analysis.	Lectures and Practice in Agriculture.
Botany.	

Every student will not be required to pursue all the branches in the foregoing list, but only such of them as the Faculty shall decide to be necessary for graduation in the course selected by each, and proper for the profession or employment in view.

GENERAL PRINCIPLES.

This Institution, the aim of which is to combine practical with theoretical culture in the higher departments of Education, and especially to promote improvement in Agriculture, the Mechanic Arts, and the application of those natural and abstract Sciences which are of most direct bearing upon the every day affairs of life, is now about commencing the third year since its re-organization. The prospects, not only from experience but from the solid progress thus far achieved, are now such as to justify full confidence in final and early success. Other similar institutions, with larger endowments and more of pretension, may have attracted a greater concourse of students, yet, notwithstanding the limited means at command and the retarding effect of past failures, this College claims to have accomplished as much as any in the land toward the true purpose of its class—that of *practicalizing while imparting a liberal education to the working classes*. Here, Farming is not an *ad captandum* branch in the catalogue, but a regular and productive pursuit of the student; Chemistry is practical analysis in the Laboratory, based upon the principles of the text-book; Botany is the collection and study of the plants themselves, not of their pictures; Mathematics carried into the field, constitutes the Practical Surveyor; and so of other studies.

In both departments, therefore, the practical as well as the theoretical, the operations of the institution are claimed to have been successful. On the one hand, the studies and mental exercises of the student in the recitation and lecture room have been as satisfactory and his progress as substantial, as if his leisure hours had been given to useless sport, aimless reading, or other worse indulgences; while, on the other hand, by the labor of ten hours a week, on the farm or in the garden, laboratory, or other field of practical science, not only have his health of body and mind been promoted and his theoretic studies rendered practically valuable, but the work of a large farm has been performed, and its various crops have been well planted, cultured and housed.

It would occupy too much space here to set forth the minute parts of the plan by which these results have been accomplished, or by which they are expected still to be increased. For, as the experience of the past has rendered necessary several modifications in the working details, it is more than probable that a larger sphere of action will indicate further changes. Leaving this, therefore, to the formative control of circumstances, the following may be stated as the general fundamental principles of the educational system of this institution:

I. Intended for the benefit of the agricultural and other industrial classes, many of whose youth are backward in their educational preparation, no qualifications for admission will, till further notice, be exacted beyond the acquirements of an ordinary English education: provided the applicant be full fifteen years of age, with sound intellect, good health, and proper moral character. But students of more advanced age and scholarship will be admitted to the class for which they may be found qualified, on examination.

II. Certain branches of knowledge are indispensable to all, without reference to class or profession. These are: 1. The branches embraced in what is called a sound English education; 2. A knowledge of the structure and laws of health of the human body; 3. A knowledge of the constitution and government of the country; and 4. A knowledge of the great principles of man's relation to the Deity;—and from the study of these, no student can be exempted. But beyond these, the parent having the right to select the life pursuit of his son, his studies shall be confined to such branches and exercises as the Faculty of instruction shall deem proper in preparation therefor.

III. The practicalness or unpracticalness of every branch of human knowledge depending less on its intrinsic nature than upon the mode of its acquisition, the art shall here be taught with the science, the practice with the theory, the use with the learning; so that what is acquired from the book or the professor, may be always at hand for the actual purposes of life.

IV. Some employments requiring more elaborate, and all somewhat different preparation, to meet various demands, there will be in this institution, *three courses*, or rather durations of instruction, at the end of each of which a Diploma will be granted to such, respectively, as shall be found proficient:

First. The Agricultural Course, embracing the various branches of a sound English education, with Algebra, Geometry, Book-keeping, Mensuration and Surveying, Chemistry, Botany, Geology, Natural Philosophy, Zoology, &c., with their applications to Agriculture; regular instruction and exercise in Practical Agriculture, and one or more of the modern languages, if desired. Graduation in this course, with the degree of Bachelor of Scientific Agriculture, will take place at the end of the Agricultural or third year.

Second. The Scientific Course, for Civil Engineers, Practical General Mechanics, &c., embracing the same studies, without the same extent of farm practice as in the Agricultural Course, but adding thereto, by longer continuance, the higher departments in the same sciences, with a fuller course in Mathematics, and the branches peculiar to the intended pursuit, both by theory and by practice, and one or more of the ancient or modern languages, if desired. Graduation, with the degree of Bachelor of Science, to take place at the end of the Scientific, or fourth year.

Third. The Literary Course, for general and thorough scholarship, or in preparation for what are termed the learned professions;—adding to the general studies and exercises of the two preceding courses, the higher and speculative departments of their several sciences and branches, a full course of mental and moral science, the highest branches of English Literature, and the learned languages and literature. Graduation, with the degree of Bachelor of Arts, to be at the end of the Literary or fifth year.

V. The better to express this plan of special instruction and graduation, though of thorough education as far as each course shall proceed, a change in the name and order, though not in the number of classes, has been made. The preparatory or Grammar school class, as heretofore in existence, is therefore now the "Freshman class." For the next in order, the title "Sopho-

more" has been dropped as not very significant, and that of "Junior" substituted, as common to all students before diverging into special study. The third year being the one at the end of which graduation in Agriculture is to take place, the class of that year naturally became the "Agricultural;" in the same way the fourth year and class are called the "Scientific," and the fifth year and class the "Literary."

VI. Elementary studies and exercises are to be so arranged that there shall be as little instruction for special pursuits as possible in the first two classes, where all are to study the rudimental branches together, diverging mainly toward particular employments in the studies, exercises and operations of the year succeeding that of the Junior; for, Mathematics, Mental and Moral Science, Chemistry, Botany, Zoology, &c., are the same in their essentials, however variously applied in the affairs of life.

VII. No study in Natural, Mental, or Moral Science, or in Literature, &c., when commenced by the student in the natural order of acquisition, is to be wholly discontinued till the end of his proper course, but each shall be pursued in its higher and still higher departments, till graduation.

VIII. No student is to be promoted to a higher class, especially from the Freshman class, except on merit,—the design being to make good scholars and not merely to grant degrees; but students will be admitted, in the first instance, to any class for which they may be found qualified, on examination.

IX. Labor being conducive to the mental and physical health of all, especially in youth, and the culture of the earth in some form being not only the pursuit of the larger portion of the community, but that for the promotion of which this institution was mainly founded, a portion of the time of each student will be given to work, so arranged as to be without detriment to his intellectual culture. In the two lower classes, whose studies are general and rudimental, all the students will be required to labor on the farm a certain number of hours each week; and the strictly agricultural students in the third or agricultural class will be subject to the same rule. But, after the Junior or second year, no farm work, as a general rule, will be required of the students for the Scientific or Literary degree, and their hours of labor will be chiefly devoted to scientific practice in the direction of their intended life employments.

X. Owing to the comparative incompleteness of re-organization, all the details of the studies for the higher classes will not be given beyond what is found in the foregoing announcement of general principles, till those classes shall have come into existence by the progress of the students. It is, however, to be distinctly stated that all necessary additional branches will then be included and instruction provided to meet the advancing wants of the student, and to render his education not only symmetrical but equal to any elsewhere attainable: The intention being, on the one hand, to graduate at the proper periods in the general course, such students as shall then have become well fitted for the special pursuits they had in view when they entered the college, with as much practical experience added to their scientific theory as can be imparted in the time, and the whole based on a sound general English education; while on the other hand, the general Literary graduate, or Bachelor of Arts, in the ordinary use of the term—his attention and studies having been directed to general Literature and Science, and not to any special pursuit, except so far as necessary for healthful bodily exercise, may leave the college a well balanced, general scholar, or man of liberal education.

DESCRIPTION OF THE INSTITUTION.

THE COLLEGE.

THE COLLEGE BUILDING.—This is a plain, substantial structure of limestone, seated on a pleasant rise of ground, and is 240 feet in length, 80 feet in average breadth, and five full stories in height, exclusive of the basement; with ample Lodging rooms, Chapel, Library, Lecture and Recitation rooms, Laboratories, Cabinets, Refectory and Infirmary, for 400 students. The whole is heated by furnaces in the basement, and well supplied with water. A large campus for exercise and drill, and extensive pleasure grounds adjoin the building, the latter being now in the course of permanent improvement, by planting, grading, &c.

OTHER BUILDINGS.—There are also a President's house with grounds attached, and one for the Vice President; the other Professors occupying sets of apartments in the main building.

THE LAND.

ITS POSITION.—The College property consists of a tract of 400 acres, of which 100 have been set off as a Model and Experimental farm, and worked separately from the main college farm of 300 acres, though under the supervision of the President as Professor of Agriculture. The tract is in Harris township, Centre county, about 12 miles west of Bellefonte, and nearly equi-distant from the opposite extremes of the State. It is near the middle, from north to south, of the broad rolling valley formed by the junction of Penn and Nittany valleys, which unite at the end of Nittany mountain, about 3 miles east of the College, with Tussey mountain on the south, and Muncy mountain on the north. The landscape is broad, varied and beautiful, the climate healthful, and the surrounding population intelligent, industrious and moral. The sale of intoxicating drinks within three miles of the College is prohibited by law.

THE COLLEGE FARM is now worked in five divisions or fields, of from 40 to 50 acres each, so as to ensure a regular succession of crops; the remainder of the tract being occupied by the college grounds, garden, orchard, and two pieces of woodland. The surface is moderately rolling, without any broken land or swamps; the soil is limestone with a large admixture of flint, and admirably adapted to the production of Wheat, Indian Corn, Oats, Barley, and the various kinds of Grasses. It responds freely to the use of lime, of which large dressings are now applied, and of plaster of Paris and the

various artificial fertilizers. All the bread and vegetables and most of the meat consumed by the students and employees are produced on the place, and its productiveness is increasing. Hereafter the cattle, during summer, will be fed or soiled on green forage in proper yards, and root crops raised for winter food, to increase the quantity both of stock that may be kept, and of barnyard manure. The stock now consists of mules for labor; a Durham bull and several grade and native cows,—the purpose being to introduce the pure Durham blood as soon as practicable; and of several breeding swine of the Chester county breed, with a sufficient stock for house use.

THE FARM BUILDINGS are a large well arranged overshot barn, with double threshing floor, threshing house, corn cribs and root house attached, and stabling for mules and other stock below, an extensive hog pen, tool house, and plough house. A wash house and slaughter house are also on the premises and conveniently placed, with roomy and well equipped carpenter and blacksmith shops.

THE GARDEN contains about six acres of prime land, and having all been subsoiled or trenched and well limed and manured, is now highly productive. It has a stock of small fruit, such as currants, gooseberries, &c., and strawberries in profusion.

The apple orchard of twelve acres, is just coming into good bearing. Cherries are in great variety and abundance.

FACILITIES FOR INSTRUCTION AND IMPROVEMENT.

THE CHAPEL is large enough to seat about four hundred persons, and comfortably furnished with seats and a platform. Here, immediately after morning roll-call, the students meet for reading the Scriptures and prayer by the members of the Faculty in turn. At 3 P. M. every Sunday, there is also regular service by clergymen of the vicinity, acting as chaplains. It is also used for General Lectures.

THE LIBRARY belonging to the College contains about fifteen hundred volumes, embracing Scientific and Technical works, Memoirs, Scientific Essays, Agricultural and Educational works, &c., in English, French and German, forming the nucleus of a fine scientific library. Certain scientific periodicals, purchased by the College for the use of the different departments of instruction, are also added to the Library from time to time as they accumulate.

CHEMICAL LABORATORIES.—The importance of Chemistry in its applications to Agriculture and the Mechanic Arts, and its value as an element of liberal education, point out for it a prominent place in each of the courses. The College offers special facilities for this study; the stock of apparatus is large and complete. Illustrations in teaching are drawn, as far as possible,

from familiar sources, and all instruction is imparted in such practical form as to make it applicable to the daily wants of life.

In addition to study by text-book and lecture in the class room, students are employed from four to six hours per week in the chemical laboratory, to apply in practice what they have learned in theory.

Each has charge of a quantity of apparatus and chemicals, which he uses under the eye of a teacher in studying the effect of different agents upon each other, and in acquiring a knowledge of chemical analysis. This study is made progressive, and carried on through successive classes after the first term of the Junior year, by which time he will have mastered the elements of Chemistry.

On entering the laboratory the student first studies the simplest principles of analysis, acquires the use of the blowpipe, &c., and learns to handle apparatus. In the higher classes he makes complete analyses of the different materials presented to him, first learning to determine the *quality* of the ingredients, afterwards their respective *quantities*. In these exercises, each student is given, as far as practicable, a course of work most applicable to his intended pursuit in life.

Three large laboratories, with all the necessary appliances, are provided for students, and a fourth for the use of the Professor of Chemistry. These rooms at present will accommodate about eighty students, working at the same time; and provision can readily be made for a greater number.

Apparatus and chemicals used in the laboratory may be purchased at the College. The cost will depend in a great measure upon the care and skill of the student. Ordinarily it need not exceed fifteen dollars (\$18 00) for the Junior class, and \$20 00 for the Agricultural. Apparatus which has been carefully used may be returned, subject to a discount of twenty-five per cent. on its cost, and the *actual* expense thus be much reduced.

MINERALS AND CRYSTAL MODELS.—It is designed to teach Mineralogy and Crystallography by means of occasional lectures, continued through every class above the Junior. A cabinet of minerals containing many fine specimens, both native and foreign, and a collection of Crystal Models of wood and plate glass, constitute the auxiliaries to study.

APPARATUS IN PHYSICS.—The principles of the important science of Physics, embracing the subjects of forces, general properties of matter, light, heat, sound, electricity, &c., will be thoroughly imparted. A collection of apparatus for experimental illustration of these subjects is in possession of the College.

HERBARIUM.—The College Herbarium contains several thousand species of plants. Most of them are from North America or Europe. Hence the species with which the farmer is most likely to have to deal are represented in the collection. It will be available for instruction in the institution.

THE GEOLOGICAL COLLECTION made by Prof. Rogers during the geological survey of the State, is in possession of the College, and will afford rare opportunity for becoming acquainted with the Geology of Pennsylvania. In addition to this, there is quite an extensive collection of typical European rocks belonging to the College.

MEDICAL DEPARTMENT.—Instruction in Human Anatomy and Physiology is rendered clear by the use of the articulated skeleton, dry preparations and charts and by occasional dissections of the more important organs of animals. From these facilities, with constant access to the laboratory and the lectures and direction of their medical studies by the proper Professors, young men intended for the profession enjoy advantages met with in few private offices; while, at the same time, they are advancing their general education.

SURVEYING AND ENGINEERING.—The College is in possession of a Transit, Compass and Chains, for practical instruction, and other instruments will be added to meet the wants of the student.

STUDENTS' SOCIETIES.—There are two of these, named, respectively, the Washington and the Cresson Literary Societies. Each has a commodious hall, handsomely fitted up, and a library of standard and miscellaneous works.

ARMORY.—This is a large room with proper racks, &c., and supplied with 100 stand of small arms and accoutrements, 25 cavalry sabres, belts, &c., and 12 foils and their appendages, for fencing. The College also has two six-pounder brass field pieces with caissons, etc., complete.

INFIRMARY.—A large, well aired, well lighted and comfortably furnished apartment in a quiet and isolated portion of the building, is set apart for the use of the sick, and supplied with all necessary medicines. This department is in charge of the Professor of Anatomy, who is an experienced physician, and attended by a careful nurse, and its accommodations are given to the students without additional charge.

SPECIAL PREPARATION OF STUDENTS.

INTENDED PROFESSION.—After two years of general preparation in study, if the student enter the Freshman class, the studies and employments of each will be specially directed either to Agriculture, General Science, Mechanics, or higher Literature, as may be desired. Each student is therefore required, at the commencement of the second term of the Junior year, to present a written statement from his parent or guardian, of the pursuit for which he is intended, and of such additional branches, if any, as he may wish to pursue, so that his exercises for the succeeding year may be duly provided for.

IRREGULAR STUDENTS.—While there shall be room in the Institution, young men desirous of pursuing particular branches without graduating, will be permitted to do so, either as boarders or day students, on payment of the same charges as the class to which they respectively belong, and subject to the same rules as to labor.

MILITARY INSTRUCTION AND UNIFORM.

MILITARY DRILL takes place twice a week, under a competent instructor, not only to prepare the student to perform his duty to the country in case of need, but to improve his personal deportment. It includes the manual of arms, company evolutions, &c., and each student is required to keep his arms and accoutrements in good order. On written request of parent or guardian, assigning sufficient reasons, a student will be excused from the drill.

THE COLLEGE UNIFORM consists of a short jacket, vest and pants of dark blue broad-cloth, with the State button, and a blue cloth cap. The cost of the suit is from \$25 to \$30.

Hereafter the uniform will be strictly required to be worn on Sundays in Chapel, and on all dress occasions, especially when students are permitted to leave the College premises on visits. No other clothes will therefore be necessary, except a warm overcoat, a full supply of under-garments, one or more coarse suits for working purposes, and two pairs of strong boots.

LABOR.

THE LABOR RULE, at present, requires an average of *ten hours* labor each week, by each regular student, which is rendered in details of four hours, either in the fore or afternoon, on alternate days, except on Saturdays, when both labor and recitations are suspended. The work is on the farm, or in the garden, barn or workshop, as the case may be, under proper superintendence. But when the classes shall all be in operation, and the number of students sufficiently large, the labor hours can be somewhat decreased, and those of the members of the higher classes, except of the strictly agricultural students in the Agricultural class, then confined to scientific and other employments calculated to impart facility of practice in their proposed professions.

THE MECHANICAL DEPARTMENT is in charge of a skillful and experienced Master Mechanic, with proper blacksmith and carpenter shops, and other appliances for the repairs of the building and fixtures and of the farming implements, and for the manufacture of such new articles for use as may be constructed on the place. In this work he is to be assisted, when necessary and desirable for the purposes of instruction, by students during their regular work hours.

WORK DURING VACATIONS.—A limited number of students desirous of remaining at the College during vacations, are retained to assist in the work of the farm, garden, &c., and paid a reasonable compensation, with board, lodging and washing, and the use of the library, &c.

THE EXPERIMENTAL FARM.

ITS OBJECTS.—This is one of three farms, the others being in Chester and Indiana counties, directed by law to be established and conducted as Model Farms, equipped with the most convenient kind of buildings and apparatus, and farmed in the best manner by hired labor, to serve as examples in successful practical agriculture; and also as Experimental Farms, to test by experiments in sufficient series, and to decide by results, those numerous doubtful questions, as to modes of culture, relative value of manures, kinds of seeds, succession of crops, qualities of live stock, &c., which perplex the farmer; and to make known the results, when sufficiently

verified, to the public. The greater portion of each tract is devoted to the general Model Farm, and the remainder to the trial of experiments.

ADVANTAGES TO THE STUDENT.—In both respects they will be highly useful and instructive to the inquiring farmer; and the one near this institution holds out much promise of benefit to the agricultural student. By attention to its processes and its crops, which are in great variety as to culture, manure, seeds, and treatment on the Experimental Plots, and by consulting the periodical records of each, which are regularly made from weight and measure and other data, as to soil, weather, &c., and open to the inspection of all, a certainty of knowledge, based on a series of similar experiments for a succession of years may be arrived at, which by no other means and by no private agency is attainable.

Students are furnished with plans and descriptions of these Experimental Plots, to enable them at all times to know the crop and treatment of each division, without the necessity of application to the Superintendent for that purpose.

TERMS, VACATIONS, CHARGES, &c.

TERMS.—To benefit the student and suit the operations of the farm, the year is divided into two terms:

THE SPRING TERM of 24 weeks, beginning on the second Monday in February, and ending on the last Friday in July.

THE FALL TERM of 16 weeks, beginning on the last Monday in August, and ending on the third Friday in December.

VACATION.—The summer vacation is four weeks, and the winter eight; students being expected to report at the College on the Friday next before the beginning of each term. Entrance on the first day of the term will greatly benefit the student.

THE CHARGE to boarders is \$100 for the Spring, and \$70 for the Fall term, which is in full for tuition, boarding, washing and fuel, with \$5 a year for room rent, and a deposit of \$5 to meet damages, if any. Each student is to provide his own furniture, light, books and stationery; but the heavier articles of furniture can be had from the College for a moderate rent, if desired.

All College charges are payable in advance, at the beginning of the respective terms.

ANNUAL HARVEST HOME.

DURING THE LAST FOUR DAYS OF THE SPRING TERM, that is from Tuesday till Friday, both included, of the last week in July, the College will be open to its friends from a distance, and such entertainment in the way of boarding and lodging as can be given, will be at their service, *without charge*.

PERSONS INCLUDED IN THIS INVITATION, are the parents or guardians of all students on the roll during the year; those having sons or wards desirous of becoming students; all former graduates of the College, and editors of the newspaper press;—all of whom on their arrival, will register their names and receive a ticket, which will secure the hospitalities of the Institution.

On Monday, Agricultural implements for trial or exhibition will be received.

On Tuesday, the annual meeting and exhibition of the Alumni will be held.

On Wednesday, the trial of mowing machines will take place.

On Thursday, there will be a trial of reapers.

On Friday, a trial of ploughs.

During the evenings, lectures and addresses, by the faculty and others, will be delivered, and in day time, the College and farm and the Experimental farm will be open for visitation.

INVENTORS AND PROPRIETORS of agricultural implements are invited to be present, with their implements for exhibition and trial.

An illumination of the College building will take place during the week.

MEANS OF ACCESS.

A new turnpike from the College gate to the end of Nittany mountain is now completed, affording a good continuous road to Bellefonte, with a daily stage and mail in both directions.

Bellefonte is connected with Tyrone, on the Pennsylvania Central railroad, by two daily trains to and from that station, and with Lock Haven on the Philadelphia and Erie railroad in the same manner. By Tyrone, passengers from the south-eastern, southern and south-western portions of the State, and by Lock Haven, those from the north eastern, northern and north-western, can daily reach Bellefonte, where the stage to the College meets them every afternoon. The return stage leaves the College every morning in time for the trains east and west from Bellefonte.

Good hotel accommodations for parents and other visiting friends can be had near the College gate.

CALENDAR FOR 1871.

SPRING TERM.

Students to report, at latest, Friday, February 10th.

Studies and exercises commence Monday, February 13th.

Holiday—Washington's birth day, Tuesday, February 22d.

Holiday—with proper celebration, Tuesday, July 4th.

Term examinations commence Monday, July 24th.

Harvest reception begins Tuesday, July 25th.

Spring term and harvest reception end Friday, July 28th.

FALL TERM.

Students to report, at latest, Friday, August 25th.

Studies and exercises commence Monday, August 28th.

Meeting of delegates from county Agricultural societies to elect trustees, Wednesday, September 6th.

Holiday—Thanksgiving day, November 30th.

Term examinations commence Monday, December 11th.

Fall term ends Friday, December 15th.

During all the regular College hours, that is, from 8 A. M. till 12 M., and from 1 till 5 P. M., students when not at recitation or work, are expected to be in their rooms engaged in study, except on Saturdays, when both studies and labor are suspended.

Copies of this circular, with any other desired information in relation to the College, will be forwarded on application to

THO. H. BURROWES,

President,

AGRICULTURAL COLLEGE, P. O.,
CENTRE COUNTY, PA.



3 0112 105898073